

**Homework 32-FORM A**  
**Exponents and Scientific Notation**

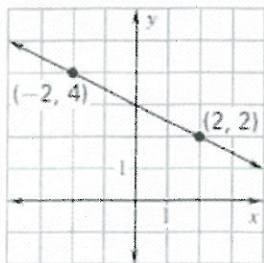
Name: \_\_\_\_\_  
 Period: \_\_\_\_\_ Date: \_\_\_\_\_

**Failure to show work and write in complete sentences on all problems will result in a LaSalle.**

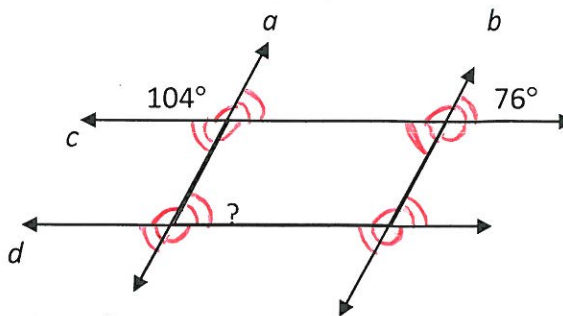
<p>1. Convert the following into standard notation:</p> <p>a. <math>256 \times 10^{-7}</math></p> <p><i>Handwritten: 256 with arrows pointing left 7 places = 0.00000256</i></p> <p>b. <math>3.4 \times 10^5</math></p> <p><i>Handwritten: 34 with arrows pointing right 5 places = 340,000</i></p> <p>c. <math>0.45 \times 10^{-6}</math></p> <p><i>Handwritten: 45 with arrows pointing left 6 places = 0.00000045</i></p>	<p>2. Of the following numbers, which is the smallest value?</p> <p>A) 6,120              B) <math>612 \times 10^{-2}</math>              C) <math>6.12 \times 10^4</math>              D) <math>0.00612 \times 10^{10}</math>              E) <math>6.12 \times 10^{-3}</math></p>	<p>3. Solve the following:</p> <p><i>Handwritten: Add exponents</i></p> <p><math>(5 \times 10^{-1})(6.69 \times 10^{-1})</math></p> <p><i>Handwritten: multiply</i></p> <p><math>\frac{3 \times 10^{-2}}{4.2 \times 10^{-2}}</math></p>
<p>4. <b>Without</b> converting into standard notation, which of the following is the smallest number? Explain.</p> <p>a. <math>5.23 \times 10^5</math>              b. <math>5.23 \times 10^{-3}</math>              c. <math>5.23 \times 10^{-2}</math>              d. <math>5.23 \times 10^{-8}</math></p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>5. Solve the following:</p> <p><math>(2.3 \times 10^{-6})(2.46 \times 10^4)</math></p> <p><i>Handwritten: <math>\frac{3.45 \times 10^6}{7 \times 10^{-2}}</math></i></p> <p><math>(6.08 \times 10^4)(3.5 \times 10^{-5})</math></p>	<p>6. State whether the number given in scientific notation has a large or small value.</p> <p>a. <math>1.1 \times 10^{12}</math> _____</p> <p>b. <math>8.9 \times 10^{-7}</math> _____</p> <p>c. <math>2.0 \times 10^{100}</math> _____</p> <p>d. <math>4.567 \times 10^{-18}</math> _____</p>
<p>7. Your classmate says that <b>0.0000000432</b> represented in scientific notation is <math>4.32 \times 10^8</math>. Is your classmate right or wrong? Explain and show work.</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>8. Which of the following has the greatest value?</p> <p>A) <math>3.1 \times 10^{-12}</math>              B) <math>31 \times 10^{-5}</math>              C) <math>0.0031 \times 10^{10}</math>              D) 310,000              E) <math>0.31 \times 10^9</math></p>	<p>9. Convert the following into scientific notation:</p> <p>a. 12,000              b. 0.000563              c. 557,000,000              d. 64              e. 908              f. 7</p>

# Mixed Review

1. Write an equation of the line shown.



2. In the figure below, line  $a$  is parallel to line  $b$ , and line  $c$  is parallel to line  $d$ . The intersections of these lines a quadrilateral. What is the measure of the missing angle?



- A.  $14^\circ$
- B.  $76^\circ$
- C.  $104^\circ$
- D.  $180^\circ$
- E. None of the above

3. A circle has an area of 30 square inches. If you double the radius, what will its new area be?

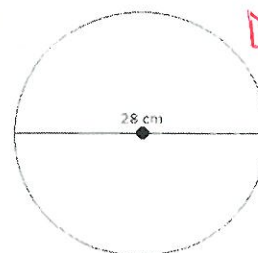
- A. 60 sq in
- B. 120 sq in
- C. 450 sq in
- D. 900 sq in

$$A = \pi(2r)^2$$

4. What is the slope of the line that goes through points (4, 2) and (1, 0)?

$$\frac{y^2 - y^1}{x^2 - x^1} = \text{slope}$$

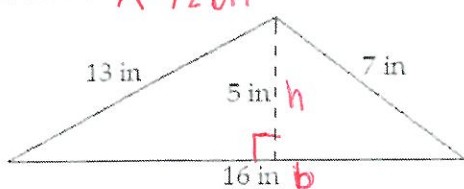
5. What is the area of the circle?



$$D = 28 \text{ cm}$$

- A)  $28\pi \text{ cm}$
- B)  $196\pi \text{ cm}$
- C)  $196\pi \text{ cm}^2$
- D)  $784\pi \text{ cm}^2$
- E) none of the above

6. What is the area of the triangle below?



$$A = \text{---} \text{ in}^2$$

7. What is  $-3(x - 3y) = 27$  written in slope-intercept form? ( $y = mx + b$ )

- A)  $y = \frac{1}{3}x + 3$
- B)  $x = 3y - 9$
- C)  $y = -\frac{1}{3}x + 3$
- D)  $y = \frac{1}{3}x - 3$
- E)  $x = 3y + 9$

8. Which describes the correct transformation to the parent graph ( $y = x^2$ )?

$$y = -\frac{1}{2}x^2$$

Reflection  
No reflection  
stretch or shrink?

- A. Stretch
- B. Stretch, and reflection across the x-axis
- C. Shrink
- D. Shrink, and reflection across the x-axis
- E. None of the above